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ABSTRACT

A Sex Content Scale was developed to evaluate a series of simulated interviews conducted with 24 second year medical students and an actress who was carefully coached to reveal a specific sexual problem as she felt comfortable with the student and as he/she asked her appropriate questions. A patient response form was also developed to quantify the simulated patient's personal reactions to the student interviewer. Scores from these measures were correlated with the scales of Lief and Reed's Sexual Knowledge and Attitude Test and the Sex Guilt Scale of Mosher's Forced Choice Guilt Inventory. Although none of the instruments studied were able to discriminate students who had participated in a sexuality program from those who had not; the measures were found reliable and their inter correlations suggest that their future use has promise for more direct evaluations of medical school sex education curricula. (Author)

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INSTRUMENTATION FOR EVALUATING MEDICAL SCHOOL COURSES IN HUMAN SEXUALITY

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ABSTRACT

A Sex Content Scale was developed to evaluate a series of simulated interviews conducted with 24 second year medical students and an actress who was carefully coached to reveal a specific sexual problem as she felt comfortable with the student and as he/she asked her appropriate questions. A patient response form was also developed to quantify the simulated patient's personal reactions to the student interviewer. Scores from these measures were correlated with the scales of Lief and Reed's Sexual Knowledge and Attitude Test and the Sex Guilt Scale of Mosher's Forced Choice Guilt Inventory. Although none of the instruments studied were able to discriminate students who had participated in a sexuality program from those who had not; the measures were found reliable and their inner correlations suggest that their future use has promise for more direct evaluations of medical school sex education curricula.

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Over the past ten years medical schools have recognized the increasing importance of helping their students learn to cope with the sexual concerns of patients. In response human sexuality curricula have been fit into medical school programs.[1]

The University of Minnesota[2] with films made by the National Sex and Drug Forum introduced the use of explicit films to desensitize and resensitize medical and other professionals. Variations of this program have spread across the country.[1,3,4,5,6,7,8]

Most of these programs have goals to help increase students' knowledge about sex, change their attitudes which bias and hurt their interaction with patients having sexual difficulties, make them less anxious talking about sex, and help them become more comfortable with their own sexuality and the sexual life styles of others. These goals are seen as ways of obtaining the ultimate goal of making it possible for the student when she/he becomes a physician to help a patient with a sexually related problem.

To date the only consistent measure has been the Sex Knowledge and Attitude Test (SKAT)[9] developed by Lief and Reed. This test is designed to measure attitudes about sex and sex knowledge. It has been widely used.[2,5,6,7,8,10] Other studies have developed their own instruments which also attempt to quanitify attitude and knowledge change.[2,3,4]

Unfortunately these measures do not address themselves to the ultimate goal of helping students learn to interview patients with sexual problems.

Though they measure attitudes and knowledge, it has not been empirically shown how these factors relate to the student's ability to become a helpful physician. Additionally these measures do not look at the student personally. Is she/he less guilty and anxious about sex, thus more comfortable talking about it with patients? Practically, can he/she formulate pertinent questions to be able to explore a patient's problem? The SKAT does not measure this. Researchers interested in this area have relied on subjective report. This data, however, is easily baised, inadequately controlled, and difficult to generalize.

Recently there has been criticism of some of the programs using explicit films and small group discussions.[11,12] This criticism is based on theoretical disagreement about the process of desensitization, resensitization and its value. This debate cannot be conclusively resolved without empirical evidence. For this purpose the SKAT is again limited and inadequate. Further measures must be developed before this controversy can be resolved.

The purpose of this study was to develop and introduce some new measures which would be able to fill some of these gaps. It includes the use of a videotaped simulated interview, a scale to measure the amount and level of sex content made by the simulated physician, a systematic evaluation of the "physician" by the "patient" and an introduction of the Mosher Forced Choice Guilt Inventory (FCGI)[13] to measure

sex guilt. Mosher defines sex guilt as "a generalized expectancy for self-mediated punishment resulting from the violation or expecting to violate sexual standards".[14]

METHOD

Twenty-four second year University of Rochester medical students volunteered to participate in the study. All of them were enrolled in the second year psychiatry clerkship which is composed of several blocks of classes aimed at helping students better interview patients. At the time of the study, fourteen students had completed the four week human sexuality segment of the clerkship while the other ten had yet to receive it. All subjects were asked to complete a fifteen minute videotaped interview with a simulated patient and were then asked to fill out the FCGI and SKAT.

Before the interview, each of the subjects was told briefly about the nature of the study and given the role of primary care physician in a clinic setting. They were told that Mrs. Smith had informed the nurse of a sexual problem and were asked to talk with her for fifteen minutes.

The actress playing Mrs. Smith had been given a specific scenario of her role and was carefully coached to reveal her problem as she became comfortable with the physician and as he/she asked appropriate questions.

Mrs. Smith's presenting complaint was headaches and menstrual cramps. As the physician successfully conducted the interview, she disclosed that her relationship with her

husband lacked affection and involvement; and he rarely wanted to have sexual intercourse with her because he ejaculated prematurely.

To evaluate the physician's success in this interview two methods were developed:

1) The Patient Response Form (PRF). After each interview the simulated patient filled out the PRF. It initially contained twenty-two statements to which she was asked to agree or disagree using a six alternative Likert format. These questions were selected from a larger pool of questions on the basis of their face validity. They dealt with how the physician affected the patient, did he/she seem knowledgeable about sex, would the patient return to this physician for treatment, etc. Each PRF question was scored (1-6 for each of the Likert choices) and totaled. An item analysis was made comparing the responses of the six highest scoring subjects and the six lowest. The six questions which discriminated the least were dropped from the instrument and a new PRF score was calculated.

Using the Spearman-Brown Prophecy Formula[15] the split half reliability of this form was found to be .89.

2) Sex Content Scale. The Sex Content Scale was constructed intuitively after viewing a number of subjects' interviews. It was designed to be used to classify each of the physician's statements and its relationship to the simulated patient's sexual problem and to be able to score the highest level of

sexual content initiated by the physician. Eleven levels of sexual content were identified and defined. (See Table 1) Each statement made by the simulated physician in the videotaped interview was rated. A ratio of sexually related to all statements (levels 5 to 11/ all) was calculated, and the peak level reached for each subject during the course of the interview was noted and recorded.

Three judges were used to determine the reliability of this instrument. One of the authors judged all twenty-four interviews and another author and a completely independent judge reviewed ten randomly selected interviews. Kendall's Coefficient of Concordance[16] was then determined for all three judges. Table 2 shows the W, X^2, and levels of significance which support high inter-judge reliability.

Caution must be taken in the interpretation of the reliability of the ratio score (A/B), since it combines the errors in reliability of the count of the sex content statements and the errors in the count of total statements.

The other two instruments used in this study were designed previously. The SKAT and the Forced Choice Guilt Inventory.

1) Sex Knowledge and Attitude Test, second edition.[9] The SKAT was developed to gather information about sexual attitudes and knowledge. Of its five scales, one measures knowledge about sex appropriate to the training of medical students; the other four scales measure the following attitudes: "The Heterosexual Relations (HR) scale deals with

the individual's general attitude towards pre and extramarital heterosexual encounters". "The Sexual Myths (SM) scale deals with an individual's acceptance or rejection of commonly held sexual misconceptions." "The Autoeroticism (M) scale deals with general attitudes toward the permissibility of masturbatory activities." "The Abortion (A) scale deals with the individual's general social, medical, and legal feelings about abortion."[17] High scores on each of these attitude scales represent a more accepting and liberal attitude. High scores on the knowledge scale represent more knowledge.

Lief and Reed[17] estimated the reliability for the attitude scales to be: heterosexual relations .86, sexual myths .71, abortion .80, and autoeroticism .81; using a standard error method with a sample of 425 medical students.

Forced Choice Guilt Inventory.[13] The FCGI was designed to measure sex guilt, hostile guilt, and morality-conscience guilt. For the purpose of this study only sex guilt was scored, however, the whole inventory was administered. "The sex guilt subscale consists of twenty-eight items whose weighted scores can range from -45 to +37; corrected split-half reliability for the scale is .97. Using the multitrait-multimethod matrix procedure, Mosher [13,18] demonstrated convergence among different measures of the same aspect of guilt and differentiation from such variables as anxiety and social desirability."[19] Construct validity is supported by the results of several investigations.[14,19,20] The lower the

score on this scale the less guilt about sex an individual is measured to have.

RESULTS

Since this study represents an exploratory investigation developing new methods and instruments for the evaluation of medical schools' sex education programs, a matrix of all the variables' correlations was deemed appropriate even though one would expect with 36 potential intercorrelations that some would appear significant as a result of chance. Further research is definitely necessary before conclusions can be drawn about the correlations and significance levels found in Table 3.

The scores of the instruments designed by this study, that is, ratio score, peak score, and patient response form score do not seem to correlate with the other variables measured except that the ratio and peak scores correlated negatively in an unpredictable and unexplainable manner with the SKAT knowledge scale while the PRF score correlated negatively with the FCGI-SG scale. This high negative correlation might be expected since it implies that the less guilty about sex the subject was, the more positive the simulated patient felt about her/his performance in the interview.

The FCGI-SG seems closely related to the measures of the SKAT since it correlates highly with the HR, M, A, and K scales.

Since the SKAT was designed to measure attitudes about

sex, it is not surprising to find strong intercorrelations of all its scales. The results found in Table 3 showing high correlations among HR, SM, M, A, and K are similar to those which were found by Lief and Reed.[17]

Unfortunately, no overall differences were found in any of the scales listed when they were used to compare medical students who had participated in the human sexuality block with those who had not. It would seem from this data that these instruments were not able to discriminate students participating in human sexuality and students who had not participated.

DISCUSSION

The fact that the peak and ratio scores do not correlate with the other variables of the study suggests that they may be measuring something different. The ability to ask questions about sex does not seem to be related to sex guilt or to attitudes about sex nor does it seem to have any bearing on the patients feelings about the interview. If further study replicated this finding, it would point to the importance of measuring this aspect and also gearing curriculum so that it would teach students how to ask questions about sex. Replication would also have to be carried out in order to see if the negative peak and ratio correlation with the SKAT knowledge scale is spurious or real.

The lack of correlation of the PRF with everything but the FCGI-SG suggests it too provides some different informa-

tion than that of other measures. The PRF-SG correlation points to what may be an important relationship between the feelings of the patient about the interview and the physician's personal lack of guilt about sex. If further study confirms this relationship then an empirical basis will exist for the theoretical assumption the more comfortable a physician is about his/her own sexuality then the better able he/she is to help others. This would also support the importance of medical school curriculum dealing with student's personal feelings about sex.

The FCGI-SC scale seems to be highly related to the SKAT since it correlates highly with four out of five scales. Even so it provides some additional information in that it also correlates highly with the PRF, but the PRF does not correlate with any of the SKAT scales to a large degree.

CONCLUSIONS

Specific conclusions cannot be drawn from this data which are more than tentative and hypothetical. Further research is necessary both to confirm the results of this study and to further establish the validity of this evaluation process and the instruments introduced.

It is necessary that the simulated patient interview, sex content scale, patient response form and the Mosher FCGI be used again with a more powerful course/treatment to see if it is possible to find differences between students who have participated in the human sexuality program and those who have

not. It is also necessary to use the sex content scale and PRF with a different simulated patient having a different simulated problem. Positive results would confirm the generalizeability of these methods to all simulated sex interviews rather than just the specific interview which was developed for this study.

The contribution of this study is its introduction of new ways of evaluating medical school sex education curriculum which may not only determine the best educational methods but also be used to understand what variables, skills and competencies are important for a physician to have in order to assist patients with their sexual problems. At present with the evaluation tools that are available the theoretical base from which human sexuality programs are developed is limited and based on personal preference. Good research with strong instrumentation will improve this situation and make it possible to make decisions based on fact and empirical evidence rather than on personal point of view and preference.

TABLE 1

SEX CONTENT SCALE

LEVEL	DEFINITION
1	Doctor responds to present symptoms with defining and evaluating statements and questions. Example: "When did this begin?" "Describe the pattern."
2	Doctor uses open-ended questions and statements with the intention of identifying the complexity of the presenting symptoms. Example: "Tell me more." "Anything else?"
3	Doctor proceeds to explore the psycho-social context of the problem. Example: Questions the patient about occupation, family, marriage, social life.
4	Non-sexual relationship(s) discussed. Questions mutual activities, interests and the tenor of interaction.
5	Sexually related activities discussed without reference to primary partner. Example: Questions of personal enjoyment, experience, contraception.
6	Information suggesting the presence of a sexual problem is elicited. Example: "We're not very close." "He never asks how I feel."
7	Sexual relationship with primary partner is discussed in general terms. Example: Frequency, perception of fulfillment is discussed.
8	Doctor suggests involvement of primary partner in the therapeutic process. Example: "I think it would be a good idea if I talked with your husband."

LEVEL	DEFINITION
9	Scenaria of specific sexual encounters with the primary partner are discussed in detail.
10	Locus of problem is identified.
11	Doctor reaches or infers appropriate tentative diagnosis(es) of the source of the sexually related problem. Example: Premature ejaculation, painful intercourse, non-orgasmic condition.

TABLE 2

KENDALL COEFFICIENTS OF CONCORDANCE (W)

FOR INTER JUDGE RELIABILITY

	W	X^2	df	Significance Level
Peak Score	.88	23.8	9	.01
Number of Sex content Statements (A)	.82	22.2	9	.01
Total Number of Statements (B)	.79	21.3	9	.02

TABLE 3

SPEARMAN RANK CORRELATIONS

	PRF	RATIO	PEAK	SG	HR	SM	M	A	K
PRF		.05 .41	.26 .11	**-.46** **.01**	.19 .19	.20 .17	.14 .26	.27 .10	.29 .09
RATIO			**.79** **.001**	.03 .45	-.09 .34	-.18 .20	-.11 .31	.27 .10	**-.50** **.006**
PEAK				-.01 .50	-.07 .38	-.22 .15	-.29 .08	.26 .11	**-.37** **.04**
SG					**-.44** **.02**	.01 .49	**-.42** **.02**	**-.62** **.001**	**-.36** **.05**
HR						**.46** **.01**	**.72** **.001**	.31 .07	.15 .24
SM							.31 .07	.08 .36	**.34** **.05**
A								.14 .26	.24 .13
K									.29 .08

KEY

PRF - Patient Response Form
RATIO - Sex Content/Total Statements
PEAK - Highest Level Reached
SG - Mosher, FCGI Sex Guilt Scale
HR - SKAT Heterosexual Relations Scale
SM - SKAT Sexual Myths Scale
M - SKAT Autoerotism Scale
A - SKAT Abortion Scale
K - SKAT Knowledge Scale

Boxed scores have a significance level of .05 or better.

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